

The impact of shared financial decision making on overconfidence for married adults

Article (Published Version)

Warmath, Dee, Piehlmaier, Dominik and Robb, Cliff (2019) The impact of shared financial decision making on overconfidence for married adults. *Financial Planning Review*, 2 (1). pp. 1-14. ISSN 2573-8615

This version is available from Sussex Research Online: <http://sro.sussex.ac.uk/id/eprint/87910/>

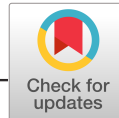
This document is made available in accordance with publisher policies and may differ from the published version or from the version of record. If you wish to cite this item you are advised to consult the publisher's version. Please see the URL above for details on accessing the published version.

Copyright and reuse:

Sussex Research Online is a digital repository of the research output of the University.

Copyright and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable, the material made available in SRO has been checked for eligibility before being made available.

Copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.



ORIGINAL ARTICLE

WILEY

The impact of shared financial decision making on overconfidence for married adults

Dee Warmath¹ | Dominik Piehlmaier² | Cliff Robb²

¹Department of Financial Planning, Housing, Consumer Economics, College of Family and Consumer Sciences, University of Georgia, Dawson Hall, Athens, Georgia

²Department of Consumer Science, School of Human Ecology, University of Wisconsin-Madison, Nancy Nicholas Hall, Madison, Wisconsin

Correspondence

Dee Warmath, Department of Financial Planning, Housing, Consumer Economics, College of Family and Consumer Sciences, University of Georgia, Dawson Hall, 305 Sanford Drive, Athens, GA 30602.
Email: warmath@uga.edu

Abstract

Previous research has shown that overconfidence is associated with a decrease in the quality of decision making and, therefore, decision outcomes. However, less is known about the conditions or circumstances that reduce financial overconfidence. Using data from two national studies, this study was designed to provide insights into the dynamics of intrahousehold financial decision making by examining the role of shared decision making in reducing overconfidence bias. Findings suggest that a psychological sense of shared ownership of money is associated with lower levels of overconfidence. With regard to financial planning practice, these results suggest that married individuals who believe in shared ownership of household money tend to have lower levels of overconfidence.

KEY WORDS

financial planning, household investments, intrahousehold decision making, overconfidence

JEL CLASSIFICATION

D14; D16; D81

1 | INTRODUCTION

While every adult faces day-to-day challenges when making financial decisions, the variety and complexity of financial decisions faced by married adults is often more complicated. The effectiveness of decision making at the couple level can mean the difference between achieving or not achieving important household financial goals for each household member (Lynch Jr., 2011). Obtaining a better understanding of the dynamics associated with financial decision making among couples has important policy and financial planning implications. According to the Current Population Survey (2018), roughly 50% of U.S. households are married with more than 60% of the population residing in married households. Members of married households can include children, parents, grandparents, and others (Davis, 1976). However, regardless of household makeup, the financial resources and decision making in these households tend to be concentrated in the hands of the husband and/or wife. Even though this

insight is well known, little attention has been paid to the impacts of marriage on financial decision making. Nearly all existing studies examine marital status as if marriage was a relatively fixed state rather than a relationship built on dynamic interactions. Understanding how marriage can influence financial decisions requires a deeper understanding of the decision making process that is negotiated (or acquiesced to) by the parties involved (Ashby & Burgoyne, 2009; Bernasek & Bajtelsmit, 2002). The nature of the decision making process cannot be captured by a marital status datapoint or as a snapshot of the resources (e.g., bank accounts) a household possesses.

Overconfidence is a personal characteristic that may provide profound insights into the manner in which financial decision making is undertaken among those who are married. As such, overconfidence may represent a key factor that influences the quality of financial outcomes. In the context of household financial decision making, overconfidence can be conceptualized as a person's level of overestimation

of her or his capacity to make financial decisions. In the literature, overconfidence has been associated with poor financial decision making that results in financial outcomes that are worse than decisions made using a more calibrated confidence level (Barber & Odean, 2001; Bhandari & Deaves, 2006; Gervais & Odean, 2001; Glaser & Weber, 2007; Moulton, Loibl, Samak, & Collins, 2013; Robb, Babiarz, Woodyard, & Seay, 2015). Overconfident decision makers are more likely to take risks (Hadar, Sood, & Fox, 2013) and delay information search behavior (Lee & Hogarth, 2000). In fact, those who exhibit overconfidence are less likely to engage in the help-seeking search process, even though the information obtained might reduce uncertainty and improve decision outcomes. In addition, those who exhibit overconfidence are more likely to rely on inflated estimates of decision making capabilities even when the objective facts of the situation, and other evidence, fail to support the person's perceptions (Alba & Hutchinson, 2000). Although the popular marital press is replete with examples, there has been very little research conducted to test the effects of marriage on overconfident behavior.¹

In this paper, we argue that a marriage in which financial decision making is shared may provide the conditions necessary for more effective decision making feedback. Two reasons underlie this possibility. First, the presence of an observer, who is in a position to see gaps between confidence and ability, may reduce some or all bias resulting from overconfidence. Second, the willingness and ability of the observer to provide effective feedback to the overconfident individual may help shift problematic decision making (Arkes, Christensen, Lai, & Blumer, 1987; Lichtenstein and Fischhoff, 1977; Mahajan, 1992). The result is that married individuals who share financial decision making should be more calibrated in their financial knowledge (i.e., have lower levels of overconfidence) than married individuals who do not share financial decision making. The existing literature provides general support for this notion. A gap in the literature, however, relates to what constitutes sharing and whether the conceptualization and operationalization of sharing matters. The extant literature has considered at least four ways sharing can be measured among married couples: (a) the presence of a joint account as evidence of pooling (Pahl, 1989); (b) shared power in the form of both spouses having final say in important financial decisions (Blood & Wolfe, 1960); (c) perceived ownership of money in which a spouse perceives that money in the household is shared (Ashby & Burgoyne, 2009); and (d) a sense of being included in financial decision making (Bernasek & Bajtelsmit, 2002).

The purpose of this paper is to describe two tests related to overconfidence and financial decision making among married couples. First, using data from the 2015 FINRA

Investor Survey, we examine the relationship between shared decision making within the marriage and overconfidence in financial knowledge. Second, using data from an online survey of a national sample of 320 married individuals collected in December of 2018, we explore whether the form of shared decision making is associated with overconfidence. Across the two studies, we employ different methodological approaches to describe and assess a person's financial knowledge overconfidence and two different populations of study.

2 | REVIEW OF LITERATURE

2.1 | The relationship between shared decision making and overconfidence

Previous literature on the topic of overconfidence provides evidence that providing humbling and immediate feedback (i.e., feedback that demonstrates the limits of what one knows in the moment) can be used to help reduce overconfidence (Arkes et al., 1987; Lichtenstein & Fischhoff, 1977; Mahajan, 1992). The presence of another person observing the decision making process can help reduce knowledge overconfidence and improve decision making ability. This occurs primarily through direct and indirect feedback from the outside observer to the decision maker (Harvey & Fischer, 1997). In effect, the outside observer can help a decision maker recognize the boundaries of the decision maker's capacities, which often leads to an increase in the likelihood of seeking advice, support, and guidance (Gruenfeld, Mannix, Williams, & Neale, 1996; Wittenbaum & Stasser, 1996).

The presence of another person during financial decision making (i.e., shared decision making) may establish the conditions necessary for the type of feedback that mitigates overconfidence (Arkes et al., 1987; Gruenfeld et al., 1996; Harvey & Fischer, 1997; Kennedy, Anderson, & Moore, 2013; Lichtenstein & Fischhoff, 1977; Mahajan, 1992; Wittenbaum & Stasser, 1996). When spouses share decision making responsibilities, each spouse is more likely to communicate and interact regarding perceptions and preferences related to the financial situation. This interaction enables each member of the couple to profit from the knowledge and skills of the other (Flury & Ickes, 2006). In addition, trust has been shown to be an important element in the willingness to consider feedback (Addo, 2017; Addo & Sassler, 2010). Shared decision making is more likely to occur when trust, commitment, and some degree of loyalty are present in the relationship (Rempel, Holmes, & Zanna, 1985).

The condition of shared decision making may influence overconfidence by adjusting the "personal fable" playing in the mind of the overconfident investor that creates a "sense

of invulnerability” (Grable, McGill, & Britt, 2009, p. 4). When making financial decisions alone, it is easier to spin a tale around one's own perceived knowledge and ability. Without an intimate partner observing the details and outcomes of decisions closely, the decision maker is more likely to enhance her or his status, regardless of anticipated or real outcomes (Anderson, Brion, Moore, & Kennedy, 2012).

Based on a review of the extant literature, it is reasonable to argue that a marriage in which financial decision making is shared will be associated with lower levels of exhibited overconfidence. Married individuals who share financial decision making tasks with their spouse are likely to have greater opportunity for feedback, which has been shown to decrease overconfidence. Thus, the first hypothesis tested in this study is: *There will be an inverse relationship between the presence of shared financial decision making and overconfidence.*

2.2 | Shared decision making within the marriage

The second research question tested in this study has to do with whether the nature of shared financial decision making matters as a mechanism to improving outcomes. The concept of financial sharing within marriage has been examined in at least four different ways. These four approaches can be grouped into two general types. First, the structural approach that examines how a married couple organizes and uses money. This approach includes Pahl's (1989) concept of pooling money in a joint account and the concept of shared power used by Blood and Wolfe (1960). With these approaches, access to money is an important concept in defining sharing. With pooling, each spouse has “access to all or nearly all household money and both are thought to be responsible for management and expenditure from the common pool” (Vogler & Pahl, 1994, p. 269). With the resource-based view of power, shared power indicates that a majority of a household's financial decisions are made by both spouses equally (Blood & Wolfe, 1960). In a comparison of these two conceptualizations, Vogler and Pahl (1994) found that couples with joint accounts tend to exhibit equal control over important household financial decisions. Shared activities, however, tend to be more closely aligned with the structure of the relationship (Kim & Waite, 2014). Shared activities indicate little about attitudes and emotions regarding the ownership and use of household financial resources.

The second type of shared financial decision making is sometimes referred to as the psychological approach. The psychological approach includes perceived ownership of money (Ashby & Burgoyne, 2008, 2009) and a sense of inclusion (Bernasek and Bajtelsmit, 2002). Perceived

ownership of money can range from feeling that joint and individual money within the household can be distinguished (i.e., distinct ownership) to feeling that all money within the household, regardless of source, is shared (i.e., shared ownership) (Ashby & Burgoyne, 2009). A sense of ownership is psychological, meaning that ownership “manifests itself in the meaning and emotion” of the individual (Pierce, Kostova, & Dirks, 2003, p. 86). Ashby and Burgoyne (2009) found that perceived ownership of money can exist across several structural arrangements within the household.

Measuring feelings of inclusion in household financial decisions is another psychological approach that can be used to examine shared financial decision making (Kim & Waite, 2014). In contrast to the other approaches described thus far, inclusion has been studied somewhat peripherally as a desired, rather than measured, condition. Inclusion has been used primarily as a general research question regarding which spouse is involved in specific decisions (Bernasek & Bajtelsmit, 2002; Davis, 1976). Feeling included, however, has important psychological implications (e.g., well-being, physical and mental health, etc.) that have been studied largely outside the domain of financial decision making (Leary, Tambor, Terdal, & Downs, 1995).

We argue in this study that the psychological approaches related to perceived ownership of money and inclusion will have a stronger association with overconfidence than the structural approaches of pooling money in joint accounts and sharing in financial decisions. As demonstrated by Ashby and Burgoyne (2009), having money in a joint account is not synonymous with a belief that ownership of the money is shared. The psychological sense of shared decision making is more closely aligned with the conditions required for feedback that have been shown to reduce overconfidence. Inclusion suggests the opportunity for an interaction to occur, although the paucity of research on inclusion does not suggest how this opportunity will or could impact overconfidence. The extant research on perceived shared ownership of money suggests the opportunity and motivation to provide feedback. Thus, the second hypothesis tested in this study is: *Perceived ownership of money will be more strongly and inversely related to overconfidence than having joint accounts or sharing in the final say in financial decisions.* We make no formal hypothesis regarding inclusion given the lack of direction from the extant literature.

3 | METHODOLOGY

The first hypothesis regarding the relationship between shared decision making and overconfidence was tested using a sample of married investors and a summary indicator of subjective financial knowledge in the measurement of

overconfidence. A national sample of married adults, and indicators of confidence in a series of financial knowledge questions, was used to test the second hypothesis regarding the nature of shared decision making.

3.1 | Sample and data

Two datasets were used to examine the hypotheses. The first dataset was the 2015 National Financial Capability Survey (NFCS) Investor Survey. This survey, administered by FINRA, was used to examine the first hypothesis regarding a relationship between shared financial decision making and overconfidence. The data file is publicly available (FINRA, 2015). Respondents in the 2015 NFCS State-by-State Survey who indicated they had investments, other than retirement accounts, were asked to complete questions about investment broker and financial advisor relationships, understanding of fees charged, usage of investment information sources, attitudes toward investing, and investor literacy. The full Investor Survey dataset includes 2,000 respondents. This study was delimited to focus on the 1,371 married individuals in the sample. The final sample was comprised of 55.5% male, 82.3% White, and 63.5% college-educated respondents. A majority of respondents (53.5%) were age 55 or older, whereas 42.5% had incomes of \$100,000 or more.

The second dataset, an online survey with a national sample of 320 married individuals ages 18 and older, was based on the Survey Sampling International panel. Data were used to examine the second hypothesis regarding the relationship between the nature of shared decision making and overconfidence. This survey was conducted in December of 2018. The sample was comprised of 52.5% female, 64.1% White non-Hispanic, 12.2% Hispanic, and 12.8% Black non-Hispanic respondents. The average income of respondents was \$86,711. The mean age of respondents was 48.2 years.

The National Financial Capability Survey of the Financial Industry Regulatory Authority is secondary data. The second dataset is an online survey conducted with approval from the Institutional Review Board at the University of Georgia.

3.2 | Measures

3.2.1 | Measures for hypothesis 1

Overconfidence

A subjective probability paradigm was used to measure overconfidence. In the context of this paradigm, overconfidence exists when confidence in one's financial knowledge is greater than one's actual financial knowledge; thus, two measures are required: confidence and accuracy (see de Zwaan, Lee, Liu, & Chardon, 2017, for a recent example). According to Moore and Healy (2008), an overconfidence

indicator can qualify as a measure of a person's overestimation knowledge and as a measure of disproportionate confidence in the precision of one's domain-specific knowledge (i.e., over-precision).²

Confidence was measured using the following question from the NFCS Investor Survey: "On a scale from 1 to 7, where 1 means very low and 7 means very high, how would you assess your overall knowledge about investing?" Accuracy was assessed using a 10-item investment knowledge battery. Items in the scale are shown in Table 1. There were 19 cases in which all 10 items were given "don't know" responses. Following a procedure advocated by Knoll and Houts (2012), "don't know" and "prefer not to say" responses were assumed to be instances in which the individual was unwilling or unable to provide the correct response. Objective knowledge was coded as 0.7 for correct responses to each of the 10 items. This calculation approach produces a score of 7 if the respondent answered all 10 items correctly.³

Overconfidence was calculated as the difference between a respondent's subjective assessment of her or his knowledge and the person's summed score on the 10-item quiz. Positive values suggest overconfidence whereas negative values indicate underconfidence (Fischhoff, Slovic, & Lichtenstein, 1977; Lichtenstein & Fischhoff, 1977; Robb et al., 2015). The resulting values ranged from -5.0 to 7.0 with a mean of 1.57 and a *SD* of 1.78.

Shared decision making

Shared decision making was measured by examining how investment decisions were made within the household. The binary variable was measured with a single item assessing whether the respondent was the primary financial decision maker when making investments choices or shared the responsibility with someone else in the household. Intrahousehold shared decision making was coded as "1" if the respondent shared responsibility and "0" if they did not. In the sample, 44.9% of respondents shared financial decision making with someone in their household. Descriptive statistics for the dependent and independent variables used in Hypothesis 1 are shown in Table 2.

3.2.2 | Measures for hypothesis 2

Overconfidence

The financial knowledge scale developed by Fernandes, Lynch Jr., and Netemeyer (2014) was used to assess each respondent's knowledge. Knowledge scores were based on the percent of questions answered correctly. Our use of the knowledge scale was unique in that following each answer, a respondent was asked to indicate her or his confidence in the answer using a 0 to 100-point slider anchored with "Not Confident at All" (0 points) and "Completely Confident"

TABLE 1 Objective investor knowledge items (FINRA investor survey)

Investor knowledge item	Response options	Percent answering correctly
G4. If you buy a company's stock...	You own a part of the company; You have lent money to the company; You are liable for the company's debts; The company will return your original investment to you; Do not know; Prefer not to say	76.6
G5. If you buy a company's bond...	You own a part of the company; You have lent money to the company; You are liable for the company's debts; You can vote on shareholder resolutions; Do not know; Prefer not to say	70.4
G6. If a company files for bankruptcy, which of the following securities is most at risk of becoming virtually worthless?	The company's preferred stock; The company's common stock; The company's bonds; Do not know; Prefer not to say	55.2
G7. In general, investments that are riskier tend to provide higher returns over time than investments with less risk.	True; False; Do not know; Prefer not to say	76.4
G8. Over the last 20 years in the U.S., the best average returns have been generated by:	Stocks; Bonds; CDs; Money market accounts; Precious metals; Do not know; Prefer not to say	61.2
G9. What has been the approximate average annual return of the S&P 500 stock index over the past 20 years (not adjusted for inflation)?	−10%; −5%; 5%; 10%; 15%; 20%; Do not know; Prefer not to say	27.9
G10. Which of the following best explains the distinction between nominal returns and real returns?	Nominal returns are pre-tax returns/real returns are after-tax returns; Nominal returns are what an investment is expected to earn/real returns are what an investment actually earns; Nominal returns are not adjusted for inflation/real returns are adjusted for inflation; Nominal returns are not adjusted for fees and expenses/real returns are adjusted for fees and expenses; Do not know; Prefer not to say	11.3
G11. Which of the following best explains why many municipal bonds pay lower yields than other government bonds?	Municipal bonds are lower risk; There is a greater demand for municipal bonds; Municipal bonds can be tax-free; Do not know; Prefer not to say	38.8

TABLE 1 (Continued)

Investor knowledge item	Response options	Percent answering correctly
G12. You invest \$500 to buy \$1,000 worth of stock on margin. The value of the stock drops by 50%. You sell it. Approximately how much of your original \$500 investment are you left with in the end?	\$500; \$250; \$0; Do not know; Prefer not to say	26.8
G13. Which is the best definition of “selling short”?	Selling shares of a stock shortly after buying it; Selling shares of a stock before it has reached its peak; Selling shares of a stock at a loss; Selling borrowed shares of a stock; Do not know; Prefer not to say	26.8

(100 points). An average confidence score was used to indicate each respondent's confidence level. Overconfidence was calculated as the ratio difference between average confidence in financial knowledge and actual knowledge (see Kim & Waite, 2014). A negative score indicated some degree of underconfidence, whereas a positive score indicated a degree of overconfidence. Average confidence was measured to be 79% ($SD = 20.05\%$; $Mdn = 84.58\%$), with scores ranging from 3.08 to 100.0%. This stands in contrast to a mean percentage of correct answers of 65.78% ($SD = 22.99\%$; $Mdn = 61.54\%$), with scores ranging from 15.38 to 100.0%. The result was an average overconfidence of 19.11% ($SD = 22.47\%$; $Mdn = 14.58\%$), with scores ranging from -37.62% (i.e., maximal underconfidence) to 76.38%.

Shared decision making

Shared decision making was measured in four ways: (a) the presence of a joint account; (b) shared power or final say; (c) perceived shared ownership of money; and (d) a sense of inclusion. The presence of a joint account (i.e., checking or savings) was measured by asking each respondent whether she or he had such an account. Each partner responded separately for the presence of a joint checking and savings

account. If either of these conditions were true, the binary joint account variable was set to 1, otherwise 0. Of the respondents, 69% reported having a joint checking account and 55% reported a joint savings account.

Shared power was measured by asking each respondent to indicate whether a set of financial decisions was made by the respondent, her or his spouse, or both equally. The financial decisions included a spending plan or budget for the household, charitable giving decisions (such as donations, tithing, etc.), large purchases (such as furniture, house, or cars), investment decisions (such as life insurance, stocks, or mutual funds), how any extra money will be used, and how an unexpected expense would be handled. Shared power was indicated by the percent of the decisions in which final say was shared equally with a spouse. The average was 50.5% with a SD of 0.42.

Perceived ownership of money was measured using a scale developed by Ashby and Burgoyne (2009). Items in this scale can be used to assess shared and distinct perceptions of money ownership among spouse in a marriage. Items assessing shared ownership included: (a) *It does not matter how much we each pay toward joint expenses as long as they all get paid*; (b) *It makes no difference which account or name money is kept in—all the money belongs to both of us*; and (c) *I would say my partner and I usually just give rather than loan each other money*. Items assessing distinct ownership included: (a) *If I borrowed money from my spouse, I would always pay them back and I would expect them to do the same*; (b) *Contributing equally to household expenses and splitting costs 50/50 is very important to me*; and (c) *We see ourselves as separate from each other financially*. Responses were provided on a 5-point scale of strongly agree to strongly disagree. Shared ownership for the household was indicated by the ratio of shared to distinct ownership. The average ratio was 1.56 with a SD of 0.93.

Inclusion in financial decision making was measured by asking each respondent the extent to which the respondent believed she or he was included in each of the shared power

TABLE 2 Descriptive statistics for dependent and independent variables (Hypothesis 1)

	Mean	SD
Overconfidence	1.57	1.78
Subjective knowledge	4.90	1.37
Objective knowledge	3.31	1.55
Intrahousehold financial decision making	Incidence	
I am the primary decision maker when it comes to making investment decisions for my household.	55.1%	
I share the decision making responsibility when it comes to investments for my household.	44.9%	

TABLE 3 Descriptive statistics for dependent and independent variables (Hypothesis 2)

Variable	Mean	SD
Overconfidence	19.11	22.47
Average confidence	79.00	20.05
Percent of answers correct	65.78	22.99
Intrahousehold decision making		
Presence of joint checking or savings account	80.0%	
Shared power	50.5	41.7
Perceived ownership of money (shared/separate)	1.56	0.93
Inclusion in household financial decisions	74.4	25.3

financial decisions listed above. Inclusion in each financial decision was indicated by a 0- to 100-point slider anchored by “Not included at all” (0 points) and “Completely included” (100 points). Sense of inclusion was estimated by the response average. The average inclusion score was 74.4 with a *SD* of 25.3.

Descriptive statistics for the dependent and independent variables are shown in Table 3.

3.2.3 | Control variables

A set of demographic and socioeconomic factors were included as controls. For Hypothesis 1, these controls were (a) sex, (b) age (18–34, 35–54, or 55 or older), (c) income (less than \$50,000, \$50,000 to less than \$100,000, \$100,000 or more), (d) race/ethnicity (White vs., non-White), and (e) educational attainment (less than a college degree vs., college or postgraduate degree). Dummy variables were constructed for each of these control variables. “Age 18–34” was the comparison category for age and “\$100,000 or more” was the comparison category for income. Descriptive statistics for the Hypothesis 1 control variables are shown in Table 4.

The same demographic and socioeconomic factors were included in the assessment of Hypothesis 2 although at finer levels of detail: age was available in years, race/ethnicity included categories beyond White, nine categories of income were available ranging from less than \$15,000 to more than \$150,000, and a full range of educational attainment options was available. Descriptive data for the Hypothesis 2 control variables is shown in Table 5.

3.3 | Analytical strategy

Tests of the hypotheses involved the estimation of a single model. The difference between models was the measure of

shared decision making. The model can be formally expressed as:

$$\begin{aligned} \text{Overconfidence}_i = & \beta_0 + \beta_1 \text{shared decision}_i + \beta_2 \text{male}_i \\ & + \beta_3 \text{white}_i + \beta_4 \text{college or more}_i \\ & + \beta_5 \text{age 35 to 54}_i + \beta_6 \text{age 55 plus}_i \\ & + \beta_7 \text{income 50K to 100K}_i \\ & + \beta_8 \text{income 100K plus}_i + \epsilon_i \end{aligned}$$

All models relied on full information maximum likelihood (FIML) estimators with heteroskedastic-robust standard errors following Eicker (1967), Huber (1967), and White (1980). FIML incorporates all available information in order to address missing data that arise, for example, due to nonsubstantive responses (i.e., “don’t know” or “prefer not to say”). The validity of this approach follows the formal argument that the marginal probability distribution of the complete (i.e., nonmissing) observations yields the true likelihood for the parameter of interest (Schafer & Graham, 2002, p. 162 et seq.). The method formally requires that data are not systematically missing.

A large set of logistic regressions, using binary indicators for missing observations, was fitted as a pre-analysis to test for the presence of data that were missing completely at random (Howell, 2008). The findings suggested that complete randomness across all variables was unsupported by the data. Consequently, missingness at random was assumed.

Reports from all regressions include unstandardized and standardized coefficients, given that the underlying datasets provide sufficient statistical power to provide reliable and comparable standardized results under the central limit theorem (Wooldridge, 2002). The following sections summarize the findings from this regression under FIML.

4 | RESULTS

4.1 | Findings regarding the relationship between shared decision making and overconfidence

Table 6 reports the results from the regression of overconfidence on shared decision making (Hypothesis 1). When controlling for sex, age, income, education, and race, results show that, compared to the condition of no sharing, sharing investment decision making within the household was associated with lower levels of overconfidence. This finding supports the first hypothesis. In addition, the standardized results indicated that the negative association between shared decision making and overconfidence was comparable to the coefficients of gender and ethnicity among married couples. The diminishing affiliations of age and education were in alignment with previous research (e.g., Hansson,

TABLE 4 Control variable characteristics (Hypothesis 1)

Variable	Incidence (%)
Sex	
Male	55.5
Female	44.5
Race	
White	82.3
Non-White	17.7
Age	
18–34	13.5
35–54	33.0
55 or older	53.5
Income	
Less than \$50,000	11.4
\$50,000 to less than \$100,000	46.2
\$100,000 or more	42.5
Educational attainment	
Less than a college degree	36.5
College or postgraduate degree	63.5

Rönnlund, Juslin, & Nilsson, 2008; Piehlmaier, 2014). Contrary to studies on the role of gender as a variable associated with financial decision making (e.g., Barber & Odean, 2001), married males were found to exhibit lower levels of overconfidence. The coefficients for income and ethnicity followed a decreasing pattern. Finally, the amount of explained variance in the model (R^2) was approximately 14%, which was deemed appropriately large and meaningful given the nature of the model.

A robustness check, using a second sufficiently independent measure that relied on financial (instead of investment) knowledge questions, is reported in Supporting Information, Tables S1–S5. The finding that shared decision making was associated with reduced levels of overconfidence in financial knowledge added evidence to the robustness of the original model, given parametric changes, as indicated by virtually identical standardized coefficients for the binary shared decision making indicators across the two overconfidence measures.

4.2 | Findings regarding the type of shared decision making

Table 7 presents the unstandardized coefficients, using FIML and heteroskedastic-robust *SEs*, for type of shared decision making. The coefficients are based on regressing financial knowledge overconfidence on shared decision making using the four measures identified above, and a set of control variables (namely, gender, age, education,

TABLE 5 Control variable characteristics (Hypothesis 2)

Control variables	Mean/incidence	SD
Female in %	52.5	
Age (in years)	48.2	16.3
Education (in %)		
High school graduate	16.3	
Some college	18.1	
Associates' degree	9.7	
Bachelor's degree	25.9	
Master's degree	22.2	
PhD, MD, JD	7.8	
Income (in %)		
Less than \$15,000	4.1	
\$15,000 to less than \$25,000	3.8	
\$25,000 to less than \$35,000	5.9	
\$35,000 to less than \$50,000	10.9	
\$50,000 to less than \$75,000	20.0	
\$75,000 to less than \$100,000	21.3	
\$100,000 to less than \$150,000	18.1	
\$150,000 or more	11.9	
Prefer not to say	4.1	
Race/ethnicity (in %)		
White, non-Hispanic	64.1	
Black, non-Hispanic	12.8	
Hispanic	12.2	
Asian, non-Hispanic	3.1	

TABLE 6 Regression results for shared decision making

Dependent variable: Overconfidence	NFCS unstandardized (1)	NFCS standardized (2)
Shared decision	−0.253* (0.1000)	−0.071*
Female	0.300** (0.0998)	0.084**
White	−0.445*** (0.126)	−0.095***
College or more	−0.517*** (0.0972)	−0.140***
Age 35–54	−0.629*** (0.161)	−0.166***
Age 55+	−1.347*** (0.148)	−0.376***
Income \$50,000– \$99,999	0.000747 (0.157)	0.000
Income \$100,000+	−0.337* (0.161)	−0.093*
Constant	3.328*** (0.222)	1.865***
Observations	1,371	1,371
R^2	0.140	

Note. Robust standard errors in parentheses.

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

TABLE 7 Regression results for type of shared decision making

Psychological				Structural					
Perceived ownership of money				Inclusion		Final say (shared power)		Joint account	
Dependent Variable:	Unstandardized (1)	Standardized (2)	Standardized (4)	Unstandardized (3)	Standardized (4)	Unstandardized (5)	Standardized (6)	Unstandardized (7)	Standardized (8)
Overconfidence									
Perceived ownership	−3.060** (1.075)	−0.131**							
Shared power						−0.0547 (0.0348)	−0.102		
Financial inclusion			0.226**	0.217** (0.0809)					
Joint account								−6.135 (5.039)	−0.108
Female	−1.528 (3.224)	−0.034	−0.044	−1.992 (3.219)		−1.093 −3.314	−0.024	−2.066 (3.284)	−0.045
Age	−0.542*** (0.0825)	−0.392***	−0.432***	−0.604*** (0.0808)		−0.516*** −0.0925	−0.374***	−0.588*** (0.0822)	−0.420***
Education									
Some college	−4.913 (6.330)	−0.084	−0.162	−9.595 (6.165)		−6.237 −6.244	−0.107	−5.850 (6.375)	−0.099
Associate degree	−7.328 (5.711)	−0.096	−0.161*	−12.36* (5.521)		−8.166 −5.752	−0.108	−7.430 (5.913)	−0.096
Bachelor's degree	−5.291 (5.623)	−0.103	−0.190	−9.836 (5.431)		−6.909 −5.443	−0.135	−5.571 (5.957)	−0.107
Master's degree	−2.021 (6.468)	−0.037	−0.105	−5.773 (6.235)		−2.527 −6.351	−0.047	−1.485 (6.841)	−0.027
PhD, MD, JD	5.271 (6.403)	0.063	0.019	1.602 (5.936)		5.18 −6.309	0.062	7.081 (6.852)	0.083
Annual household income									
\$15,000–\$24,999	−10.53 (6.911)	−0.089	−0.085	−10.21 (6.136)		−7.893 −7.587	−0.067	−12.36 (6.677)	−0.103
\$25,000–\$34,999	−14.10 (7.448)	−0.148	−0.157*	−15.12* (6.537)		−13.72 −7.567	−0.144	−16.35* (6.785)	−0.169*
\$35,000–\$49,999	−32.20*** (8.224)	−0.447***	−0.442***	−32.20*** (8.556)		−30.65*** −8.355	−0.427***	−33.25*** (8.056)	−0.455***
\$50,000–\$74,999	−18.87*** (5.719)	−0.336***	−0.353***	−20.10*** (5.644)		−17.49** −5.91	−0.312**	−18.85*** (5.697)	−0.330***

TABLE 7 (Continued)

Dependent Variable:	Psychological			Structural			
	Perceived ownership of money		Inclusion	Final say (shared power)		Joint account	
	Unstandardized (1)	Standardized (2)		Unstandardized (5)	Standardized (6)	Unstandardized (7)	Standardized (8)
\$75,000–\$99,999	–21.21*** (5.373)	–0.386***	–23.36*** (5.179)	–20.48*** –5.606	–0.374***	–21.77*** (5.272)	–0.390***
\$100,000–\$149,999	–19.96** (6.183)	–0.342**	–20.73*** (6.172)	–18.61** –6.642	–0.320**	–20.49*** (6.084)	–0.346***
\$150,000 or more	–28.04*** (6.405)	–0.404***	–30.81*** (6.111)	–28.07*** –6.65	–0.405***	–30.19*** (6.350)	–0.428***
Prefer not to say	–26.57* (12.87)	–0.233*	–34.93* (15.49)	–26 –15.22	–0.229	–29.93 (15.39)	–0.259
Ethnicity/race							
Hispanic	–6.930 (4.662)	–0.100	–6.426 (4.238)	–6.185 –4.709	–0.09	–6.098 (4.849)	–0.087
Black/non-Hispanic	7.385 (4.522)	0.110	9.594* (4.560)	7.61 –4.509	0.113	6.453 (4.358)	0.095
Asian/non-Hispanic	3.918 (10.83)	0.030	5.635 (5.452)	4.476 –8.407	0.035	4.013 (8.753)	0.031
Constant	74.56*** (6.321)	3.319***	60.88*** (7.994)	70.81*** –6.84	3.158***	78.46*** (7.283)	3.440***
Observations	320	320	320	320	320	320	320
R ²	0.379		0.422	0.37		0.389	

Note. Robust standard errors in parentheses.

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

income, and ethnicity/race), following the equation shown in Section 2.3. A separate model was estimated for each measure of shared decision making.

First, results from the two psychological measures of shared decision making (i.e., perceived ownership of money and inclusion) were evaluated. In a first step, the association between perceived ownership of money and overconfidence was assessed. The first column in Table 5 lists the unstandardized coefficients using FIML and heteroskedastic-robust *SEs* to regress overconfidence in financial knowledge on the perceived shared- to sole-ownership-of-money ratio and the set of aforementioned control variables. It can be observed in the model results that perceived shared ownership was negatively associated with overconfidence, mirroring the findings from the assessment of first hypothesis. The standardized coefficients in the second column showed that the effect size of perceived ownership of money was exceeded only by income and age. The associations between the control variables and overconfidence was somewhat different than the model used to test the first hypothesis. Being male, highly educated, and White/non-Hispanic were not significantly related to lower levels of overconfidence. The model's R^2 of 0.38 provided evidence of excellent model fit.

The second model examining a psychological measure of shared decision making analyzed the association between financial knowledge overconfidence and perceived financial inclusion within a marriage. The third column in Table 5 shows that a feeling of financial inclusion was statistically significantly associated with elevated levels of financial overconfidence. Only age and income were more important than inclusion in the model. While the coefficients for age and income continued to be notably negative, self-identifying as Black/non-Hispanic was positively associated with higher levels of overconfidence. The model's R^2 of 0.42 suggested an excellent fit for this model.

Two other models were used to examine the structural measures of shared decision making (i.e., shared financial decision making power and pooling money in a joint account). The fifth column in Table 5 reports the results for shared power. Shared power in financial decision making was not significantly associated with a decrease in overconfidence. The remaining implications from the previous regression regarding the roles of the control variables remained the same. The R^2 of this model was 0.37.

Lastly, a binary indicator for holding a joint account was constructed and used as the primary independent variable within the FIML regression. Maintaining such an account did not have a traceable affiliation with the bias. A possible reason for the absence of an effect can be found in the fact that 80% of the sample had such an account. An excessively large set of observations from married participants with and

without joint accounts would be needed to reduce the standard deviation to a level in which a reliable assessment regarding this variable's role can be made. Finally, the model's R^2 was 0.39.

5 | DISCUSSION

This study demonstrates that shared decision making within a marriage has the potential to reduce overconfidence when making financial decisions. This possibility is most likely when a married individual has a psychological sense of sharing regarding ownership and use of household financial resources, which is evidenced by perceived shared ownership of money. Interestingly, a sense of inclusion in household financial decision making is associated with increased overconfidence. These findings suggest that just being involved in decision making is not enough to reduce decision making bias associated with financial overconfidence. Instead, the experience of navigating a shared path with a spousal partner may be required to achieve such an impact.

Structural assessments of shared decision making (i.e., sharing power or final say and having a joint account) were not found to have a significant association with overconfidence in financial knowledge. This finding extends the work of Ashby and Burgoyne (2009) regarding the independent nature of types of sharing by comparing association with overconfidence. In addition, the results provide important insights into the nature of intrahousehold decision making by describing the effect of shared decision making structure and psychology on the extent of overconfidence, a bias that is known to produce largely negative effects on financial outcomes (Barber & Odean, 2001; Bhandari & Deaves, 2006; Gervais & Odean, 2001; Glaser & Weber, 2007; Moulton et al., 2013; Robb et al., 2015).

5.1 | Study limitations

A key limitation associated with this study is the issue of endogeneity. With cross-sectional data and the lack of a reasonable and available instrumental variable, it is not possible to rule out the possibility that overconfidence influences the probability of sharing financial decision making. In fact, the true relationship may be nonrecursive with shared decision making influencing overconfidence and overconfidence influencing shared decision making. Future research should be devoted to exploring this possibility. The current study, therefore, should be considered an initial assessment in helping to describe the possible role of shared decision making in decreasing overconfidence. The current study is intended to prompt a discussion between and among financial planning practitioners, their clients, and the research community on this

important topic. Additional research (i.e., longitudinal research and/or experiments) is required to examine the causality of the relationships observed.

5.2 | Implications for financial practitioners

This study offers several implications for those in the financial planning community who have an interest in financial decision making and planning dynamics among those who are married. The extant literature has tended to examine the financial decision making outcomes associated with overconfidence rather than the conditions that lessen the impact of overconfidence on financial decisions. As a result, it is well known that overconfidence tends to lead to suboptimal outcomes. On the other hand, little about how to address the issues of overconfidence are described in the literature. This paper shifts the focus to the conditions that advance the conversation toward an understanding of the social psychology of overconfidence for married individuals. This, and additional, work contributes to the development of interventions to lessen overconfidence.

This study has direct implications for the practice of financial planning as well. In 2015, roughly 40% of Americans consulted a professional financial planner (Certified Financial Planner Board of Standards, 2015). Although there are numerous reasons why clients might turn to a professional advisor (e.g., to answer certain financial questions or construct a financial plan), not all advisor-client relationships lead to the successful development and execution of a solid financial plan for a client. The model of shared decision making within the household may offer insights for establishing advisor-client relationships that encourage greater pursuit financial plans that lead to better household outcomes. By encouraging a sense of shared ownership among clients, financial planners may also benefit from the reduced overconfidence and concomitant increase in willingness to consider feedback by encouraging greater sharing of financial decision making with a spouse for their married clients.

5.3 | Directions for future research

An important question remains unanswered: can the private market provide a substitute for intrahousehold shared decision making, perhaps in the form of a professional financial planner? Future research could examine this possibility. There is evidence to suggest that this substitution may be possible. In a professional context, sharing is essentially borrowing competence from the professional advisor. Previous research has indicated that the use of a financial planner can improve consistency in household decision making with regards to risk tolerance (Park & Yao, 2016). The decision

to share investment decision making with a financial planner may operate as a form of insurance or self-protection (Ehrlich & Becker, 1972). The expertise and presence of a financial planner may provide a potential mirror reflecting areas of overconfidence by questioning flawed logic or beliefs. Studies have shown that co-production, trust, and communication increase commitment and loyalty in client-advisor relationships (Auh, Bell, McLeod, & Shih, 2007; Christiansen & DeVaney, 1998). Sharing investment decision making helps balance client expectations of future outcomes and reduces the illusion of control (Langer, 1975). It is also plausible, however, to also conclude that establishing a relationship with a paid advisor may be dependent on lower levels of overconfidence as some recognition of the need for help may precede the search for an external advisor for such a defined need. In addition, the advisor-client relationship may be more limited in its ability to provide humbling and effective feedback than the married couple relationship, since it lacks the bonds found in marriage that make it more difficult to fire a spouse.

5.4 | Conclusion

Findings from this study suggest that a psychological sense of shared ownership of money within the household is associated with lower levels of overconfidence. Given the negative implications of overconfidence for financial outcomes (Barber & Odean, 2001), helping couples develop this sense of shared psychological ownership may lead to higher levels of financial well-being.

CONFLICT OF INTEREST

None.

ENDNOTES

¹Examples of popular press views on marriage include a February 2018 article by Cosmopolitan on the ways in which your relationship changes after marriage (<https://www.cosmopolitan.com/uk/love-sex/a15954525/ways-your-relationship-changes-after-marriage/>) and a 2013 Lifehacker article on what you wish you had known prior to marriage (<https://lifehacker.com/7-things-i-wish-i-had-known-before-getting-married-1452066572>).

²Over-placement, also called better-than-average effect (i.e., the tendency to rate one's skills or performance to be superior relative to a [sub]population average), was not considered in the current study.

³The results of an item response theory model assessing the difficulty of the items, is available in Tables S1–S5.

ORCID

Dee Warmath  <https://orcid.org/0000-0001-8301-1386>

REFERENCES

- Addo, F. R. (2017). Financial integration and relationship transitions of young adult cohabiters. *Journal of Family and Economic Issues*, 38(1), 84–99. <https://doi.org/10.1007/s10834-016-9490-7>
- Addo, F. R., & Sassler, S. (2010). Financial arrangements and relationship quality in low-income couples. *Family Relations*, 59(4), 408–423. <https://doi.org/10.1111/j.1741-3729.2010.00612.x>
- Alba, J. W., & Hutchinson, J. W. (2000). Knowledge calibration: What consumers know and what they think they know. *Journal of Consumer Research*, 27(2), 123–156. <https://doi.org/10.1086/314317>
- Anderson, C., Brion, S., Moore, D. A., & Kennedy, J. A. (2012). A status-enhancement account of overconfidence. *Journal of Personality and Social Psychology*, 103(4), 718–735. <https://doi.org/10.1037/a0029395>
- Arkes, H. R., Christensen, C., Lai, C., & Blumer, C. (1987). Two methods of reducing overconfidence. *Organizational Behavior and Human Performance*, 39(1), 133–144. [https://doi.org/10.1016/0749-5978\(87\)90049-5](https://doi.org/10.1016/0749-5978(87)90049-5)
- Ashby, K. J., & Burgoyne, C. B. (2008). Separate financial entities?: Beyond categories of money management. *The Journal of Socio-Economics*, 37(2), 458–480. <https://doi.org/10.1016/j.socsec.2006.12.035>
- Ashby, K. J., & Burgoyne, C. B. (2009). The financial practices and perceptions behind separate systems of household financial management. *The Journal of Socio-Economics*, 38(3), 519–529. <https://doi.org/10.1016/j.socsec.2009.02.007>
- Auh, S., Bell, S. J., McLeod, C. S., & Shih, E. (2007). Co-production and customer loyalty in financial services. *Journal of Retailing*, 83(3), 359–370. <https://doi.org/10.1016/j.jretai.2007.03.001>
- Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics*, 116, 261–292. <https://doi.org/10.1162/003355301556400>
- Bernasek, A., & Bajtelsmit, V. L. (2002). Predictors of women's involvement in household financial decision making. *Journal of Financial Counseling and Planning*, 13(2), 39.
- Bhandari, G., & Deaves, R. (2006). The demographics of overconfidence. *The Journal of Behavioral Finance*, 7(1), 5–11. https://doi.org/10.1207/s15427579jpfm0701_2
- Blood, R. O., & Wolfe, D. M. (1960). *Husbands & Wives*. New York, NY: Free Press.
- Certified Financial Planner Board of Standards. (2015). Retrieved from <https://www.cfp.net/for-cfp-professionals/professional-standards-enforcement/standards-of-professional-conduct>
- Christiansen, T., & DeVaney, S. A. (1998). Antecedents of trust and commitment in the financial planner-client relationship. *Journal of Financial Counseling and Planning*, 9(2), 1–10. Retrieved from <http://search.proquest.com.ezproxy.library.wisc.edu/docview/1355863183?accountid=465>
- Current Population Survey. (2018). Retrieved from <https://www.census.gov/cps/data/cpstablescreator.html?#>
- Davis, H. L. (1976). Decision making within the household. *Journal of Consumer Research*, 2(4), 241–260. <https://doi.org/10.1086/208639>
- de Zwaan, L., Lee, C., Liu, Y., & Chardon, T. (2017). Overconfidence in financial literacy: Implications for planners. *Financial Planning Research Journal*, 3, 31–46.
- Ehrlich, I., & Becker, G. S. (1972). Market insurance, self-insurance, and self-protection. *Journal of Political Economy*, 80(4), 623–648. <https://doi.org/10.1086/259916>
- Eicker, F. (1967). Limit theorems for regressions with unequal and dependent errors. In *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability Statistics* (Vol. 1, pp. 59–82). Berkeley, CA: University of California Press. Retrieved from <https://projecteuclid.org/euclid.bsmmsp/1200512981>
- Fernandes, D., Lynch, J. G., Jr., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861–1883. <https://doi.org/10.1287/mnsc.2013.1849>
- FINRA Investor Education Foundation. (2015). *National Financial Capability Survey*. Retrieved from <http://www.usfinancialcapability.org/about.php>
- Fischhoff, B., Slovic, P., & Lichtenstein, S. (1977). Knowing with certainty: The appropriateness of extreme confidence. *Journal of Experimental Psychology: Human Perception and Performance*, 3(4), 552–564. <https://doi.org/10.1037/0096-1523.3.4.552>
- Flury, J., & Ickes, W. (2006). In J. Ciarrochi, J. P. Forgas, & J. D. Maye (Eds.), *Emotional intelligence in everyday life: A scientific inquiry* (pp. 140–169). New York, NY: Psychology Press. <https://doi.org/10.13140/2.1.1406.1447>
- Gervais, S., & Odean, T. (2001). Learning to be overconfident. *The Review of Financial Studies*, 14(1), 1–27. <https://doi.org/10.1093/rfs/14.1.1>
- Glaser, M., & Weber, M. (2007). Overconfidence and trading volume. *The Geneva Risk and Insurance Review*, 32(1), 1–36. <https://doi.org/10.1007/s10713-007-0003-3>
- Grable, J. E., McGill, S., & Britt, S. (2009). Risk tolerance estimation bias: The age effect. *Journal of Business & Economics Research*, 7(7), 1–12. <https://doi.org/10.19030/jber.v7i7.2308>
- Gruenfeld, D. H., Mannix, E. A., Williams, K. Y., & Neale, M. A. (1996). Group composition and decision making: How member familiarity and information distribution affect process and performance. *Organizational Behavior and Human Decision Processes*, 67(1), 1–15. <https://doi.org/10.1006/obhd.1996.0061>
- Hadar, L., Sood, S., & Fox, C. R. (2013). Subjective knowledge in consumer financial decisions. *Journal of Marketing Research*, 50(3), 303–316. <https://doi.org/10.1509/jmr.10.0518>
- Hansson, P., Rönnlund, M., Juslin, P., & Nilsson, L. G. (2008). Adult age differences in the realism of confidence judgments: Overconfidence, format dependence, and cognitive predictors. *Psychology and Aging*, 23, 531–544. <https://doi.org/10.1037/a0012782>
- Harvey, N., & Fischer, I. (1997). Taking advice: Accepting help, improving judgment, and sharing responsibility. *Organizational Behavior and Human Decision Processes*, 70(2), 117–133. <https://doi.org/10.1006/obhd.1997.2697>
- Howell, D. C. (2008). Type of missingness. In *Handbook of Social Science Methodology*. London, England: Sage.
- Huber, P. J. (1967). The behavior of maximum likelihood estimates under nonstandard conditions. In *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability Statistics* (Vol. 1, pp. 221–233). Berkeley, CA: University of California Press. Retrieved from <https://projecteuclid.org/euclid.bsmmsp/1200512988>
- Kennedy, J. A., Anderson, C., & Moore, D. A. (2013). When overconfidence is revealed to others: Testing the status-enhancement theory of overconfidence. *Organizational Behavior and Human Decision Processes*, 122(2), 266–279. <https://doi.org/10.1016/j.obhdp.2013.08.005>

- Kim, J., & Waite, L. J. (2014). Relationship quality and shared activity in marital and cohabiting dyads in the National Social Life, Health, and Aging Project, Wave 2. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 69(Suppl_2), S64–S74. <https://doi.org/10.1093/geronb/gbu038>
- Knoll, M. A., & Houts, C. R. (2012). The financial knowledge scale: An application of item response theory to the assessment of financial literacy. *Journal of Consumer Affairs*, 46(3), 381–410. <https://doi.org/10.1111/j.1745-6606.2012.01241.x>
- Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 32(2), 311–328. <https://doi.org/10.1037/0022-3514.32.2.311>
- Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology*, 68, 518–530.
- Lee, J., & Hogarth, J. M. (2000). Consumer information search for home mortgages: Who, what, how much, and what else? *Financial Services Review*, 9(3), 277–293. [https://doi.org/10.1016/S1057-0810\(01\)00071-3](https://doi.org/10.1016/S1057-0810(01)00071-3)
- Lichtenstein, S., & Fischhoff, B. (1977). Do those who know more also know more about how much they know? The calibration of probability judgments. *Organizational Behavior and Human Performance*, 20(2), 159–183. [https://doi.org/10.1016/0030-5073\(77\)90001-0](https://doi.org/10.1016/0030-5073(77)90001-0)
- Lynch, J. G., Jr. (2011). Introduction to the journal of marketing research special interdisciplinary issue on consumer financial decision making. *Journal of Marketing Research*, 48(SPL), Siv–Sviii. <https://doi.org/10.1509/jmkr.48.SPL.Siv>
- Mahajan, J. (1992). The overconfidence effect in marketing management predictions. *Journal of Marketing Research*, 29(3), 329–342. <https://doi.org/10.2307/3172743>
- Moore, D. A., & Healy, P. J. (2008). The trouble with overconfidence. *Psychological Review*, 115(2), 502–517. <https://doi.org/10.1037/0033-295X.115.2.502>
- Moulton, S., Loibl, C., Samak, A., & Collins, J. M. (2013). Borrowing capacity and financial decisions of low-to-moderate income first-time homebuyers. *Journal of Consumer Affairs*, 47(3), 375–403. <https://doi.org/10.1111/joca.12021>
- Pahl, J. M. (1989). *Money and marriage*. London, England: Macmillan.
- Park, E., & Yao, R. (2016). Financial risk attitude and behavior: Do planners help increase consistency? *Journal of Family and Economic Issues*, 37(4), 624–638. <https://doi.org/10.1007/s1083>
- Piehlmaier, D. (2014). *Irrational and overrated: Is our unrealistic self-perception connected to educational achievements?* Hamburg, Germany: Anchor Academic Publishing.
- Pierce, J. L., Kostova, T., & Dirks, K. T. (2003). The state of psychological ownership: Integrating and extending a century of research. *Review of General Psychology*, 7(1), 84–107. <https://doi.org/10.1037/1089-2680.7.1.84>
- Rempel, J. K., Holmes, J. G., & Zanna, M. P. (1985). Trust in close relationships. *Journal of Personality and Social Psychology*, 49(1), 95–112. <https://doi.org/10.1037//0022-3514.49.1.95>
- Robb, C. A., Babiarz, P., Woodyard, A., & Seay, M. C. (2015). Bounded rationality and use of alternative financial services. *Journal of Consumer Affairs*, 49(2), 407–435. <https://doi.org/10.1111/joca.12071>
- Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods*, 7, 147–177. <https://doi.org/10.1037//1082-989X.7.2.147>
- Vogler, C., & Pahl, J. (1994). Money, power and inequality within marriage. *The Sociological Review*, 42(2), 263–288. <https://doi.org/10.1111/j.1467-954X.1994.tb00090.x>
- White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica*, 48(4), 817–838. <https://doi.org/10.2307/1912934>
- Wittenbaum, G. M., & Stasser, G. (1996). Management of information in small groups. In J. L. Nye & A. M. Brower (Eds.), *What's social about social cognition? Research on socially shared cognition in small groups* (pp. 3–28). Thousand Oaks, CA: Sage Publications, Inc. <https://doi.org/10.4135/9781483327648.n1>
- Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. Cambridge, MA: B&T.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

How to cite this article: Warmath D, Piehlmaier D, Robb C. The impact of shared financial decision making on overconfidence for married adults. *Financial Planning Review*. 2019;2:e1032. <https://doi.org/10.1002/cfp2.1032>